

ABSTRACT OF THE DISCLOSURE

Provided is a method of oligomerizing alpha olefins. In an embodiment, an oligomerization catalyst system is contacted in at least one continuous reactor with a feed comprising olefins; an effluent comprising product olefins having at least four carbon atoms is withdrawn from the reactor; the oligomerization catalyst system comprises iron or cobalt, or combinations thereof; and the single pass conversion of ethylene is at least about 40 weight percent among product olefins having at least four carbon atoms. In another embodiment, the single pass conversion of ethylene comprises at least about 65 weight percent among product olefins having at least four carbon atoms. In another embodiment, product olefins of the effluent having twelve carbon atoms comprise at least about 95 weight percent 1-dodecene. In another embodiment, product olefins comprise at least about 80 weight percent linear 1-alkenes. In another embodiment, product olefins comprise at least about 20 weight percent alpha olefins having from about 8 to about 20 carbon atoms. In another embodiment, the oligomerization catalyst system provided comprises a selective 1-hexene (S1H) catalyst.